State of Utah

Department of
Environmental Quality

Richard W. Sprott
Executive Director

DIVISION OF AIR QUALITY
Cheryl Heying
Director

JON M. HUNTSMAN, JR.
Governor

GARY HERBERT
Lieutenant Governor

DAQE-IN0113860016-08

July 23, 2008

Shannon J Storrud
Hexcel Corporation
P.O. Box 18748
Composite Produts Division
Salt Lake City, Utah 84188-0748

Dear Mr. Storrud:

Re: Intent to Approve: Modification to Approval Order DAQE-AN1386014-06 by Adding Carbon Fiber Production Process Equipment Items, Salt Lake County – CDS A; NA; MAINT; HAPs; NSPS; MACT; Title V Major Project Code: N011386-0016

The attached document is the Intent to Approve for the above-referenced project. The Intent to Approve is subject to public review. Any comments received shall be considered before an Approval Order is issued.

Future correspondence on this Intent to Approve should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any questions you may have on this project to Mr. Tim DeJulis. He may be reached at (801) 536-4012.

Sincerely,

John T. Blanchard, Manager
Minor New Source Review Section

JTB:TDJ:kw

cc: Salt Lake Valley Health Department
Mike Owens, EPA Region VIII

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

INTENT TO APPROVE: Modification to Approval Order DAQE-AN1386014-06 by Adding Carbon Fiber Production Process Equipment Items

Prepared By: Tim DeJulis, Engineer
(801) 536-4012
Email: tdejulis@utah.gov

INTENT TO APPROVE NUMBER

DAQE-IN0113860016-08

Date: July 23, 2008

Hexcel Corporation

Source Contact
Shannon Storrud
(801) 508-8011

M. Cheryl Heying
Executive Secretary
Utah Air Quality Board

Abstract

Hexcel Corporation, a Clean Utah partner, and the owner and operator of the carbon fiber, and fabric pre-impregnation (pre-preg) manufacturing plant located at 6800 West 5400 South, West Valley City, Salt Lake County, has requested modifications to their existing Approval Order. The requested changes are associated with an expansion of annual carbon fiber production, and include the installation of two new carbon fiber production lines (Fiber Lines 11 and 12) to be housed in an new production building (#2482). Each new process line will consist of four low temperature ovens, one low temperature furnace, one high temperature furnace, one fume incinerator, one surface treatment area and mix room, one sizing application area, and two diesel fueled, emergency generators (1,250 kW - each). The potential levels of hydrogen cyanide pollution from this new process line will be abated by use of the above fume incinerators, as part of a sealed ventilation system. Additional pollution control measures involve the use of oxidizing burner boxes located at the entrance to each high-temperature furnace, use of steam utility for product drying, and the use of electrically heated process furnaces. Hexcel Corporation anticipates producing an additional 3,000,000 pounds of carbon fiber annually, for a total of 10,000,000 pounds. In conjunction with this request Hexcel Corporation has requested that the existing resin and curing agent consumption limits be removed. The emissions from this process are controlled and potential emissions accounted for in the limitation on VOC/HAP emissions and the current analysis of impacts.

Due to the increase in hydrogen cyanide emissions Hexcel Corporation is required to perform an air dispersion modeling analysis to determine the effect their plant-wide hydrogen cyanide, methylene chloride, di-methyl formamide, and xylene emissions have on the Utah health standards for these compounds in West Valley City, Salt Lake County. The analysis they submitted demonstrated that Hexcel Corporation's potential hydrogen cyanide, methylene chloride, di-methyl formamide, and xylene emissions are within the Utah health standards for each pollutant. Hexcel Corporation is classified as a major source and the proposed modification is considered a major modification. The indicated increases in emissions mean that Hexcel Corporation triggers the requirement to obtain PM_{10} and ozone emission offset credits, both on a 1.2:1 basis, as per UAC R307-403-5 and R307-420-2 through 420-5. PM_{10} emissions offsets of 71.60 tons and ozone emission offsets of 70.60 tons were satisfied as required. This is referenced in DAQE-046-08 and DAQE-052-08.

Salt Lake County is a Non-attainment area of the National Ambient Air Quality Standards (NAAQS) for PM_{10} and Sulfur Dioxide (SO_2) and is a Maintenance area for Ozone. New Source Performance Standards (NSPS) (40 CFR 60 Subpart A, and Subpart IIII), and Maximum Achievable Control Technology (MACT) standards (40 CFR 63 Subpart A, Subpart SS, Subpart ZZZZ, & Subpart HHHHH) apply to this source. National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations (40 CFR 61) do not apply to this source. Title V of the 1990 Clean Air Act applies to this major source. This source requires a Title V operating permit. Until further notice PM_{10} is considered to be a useful, representative surrogate to $PM_{2.5}$ for the purposes of evaluating potential impacts and other regulatory considerations.

The emissions, in tons per year, will change as follows:
PM_{10} (+ 46.30), SO_2 (+ 13.37), CO (+ 21.92), VOC (+ 8.72), HAP (- 1.06)

The changes in emissions will result in the following potential to emit totals, in tons per year:
PM_{10} = 117.46, NO_x = 148.87, SO_2 = 27.62, CO = 63.07, VOC = 54.70, HAPs = 588.78

The Notice of Intent (NOI) for the above-referenced project has been evaluated and has been found to be consistent with the requirements of the Utah Administrative Code Rule 307 (UAC R307). Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an Approval Order by the Executive Secretary of the Utah Air Quality Board.

A 30-day public comment period will be held in accordance with UAC R307-401-7. A notice of intent to approve will be published in the Salt Lake Tribune and Deseret News on July 28, 2008. During the public comment period, the proposal and the evaluation of its impact on air quality will be available for both you and the public to review and comment. If anyone so requests a public hearing, it will be held in accordance with UAC R307-401-7. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated.

Please review the proposed Approval Order (AO) conditions during this period and make any comments you may have. The proposed conditions of the AO may be changed as a result of the comments received. Unless changed, the Approval Order will be based upon the following conditions:

General Conditions:

1. This AO applies to the following company:

   Site Office

   Hexcel Corporation
   Salt Lake Operations
   P.O. Box 18748
   Salt Lake City, Utah 84188-0748

   Phone Number: (801) 508-8599
   Fax Number: (801) 508-8090

   The equipment listed in this AO shall be operated at the following location:

   6800 West 5400 South West Valley City, Salt Lake County

   Universal Transverse Mercator (UTM) Coordinate System: UTM Datum NAD27
   4,500.6 kilometers Northing, 410.9 kilometers Easting, Zone 12

2. All definitions, terms, abbreviations, and references used in this AO conform to those used in the Utah Administrative Code (UAC) Rule 307 (R307) and Title 40 of the Code of Federal Regulations (40 CFR). Unless noted otherwise, references cited in these AO conditions refer to those rules.

3. The limits set forth in this AO shall not be exceeded without prior approval in accordance with R307-401.

4. Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved in accordance with R307-401.

5. All records referenced in this AO, or in applicable MACT standards, which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the two-year period prior to the date of the request. Records shall be kept for the following minimum periods:

A.	Emission inventories	Five years from the due date of each emission statement or until the next inventory is due, whichever is longer.
B.	All other records	Five years

6. Hexcel Corporation (Hexcel) shall conduct its operations of the carbon fiber plant in accordance with the terms and conditions of this AO, which was written pursuant to Hexcel's Notice of Intent submitted to the Division of Air Quality (DAQ) on February 14, 2008, and additional information submitted on April 25, 2008, June 18, 2008, June 26, 2008, June 30, 2008, and July 7, 2008.

7. This AO shall replace the AO (DAQE-AN1386014-06) dated October 23, 2006.

Limitations and Tests Procedures

8. Visible emissions from all emission points shall not exceed a 10% opacity limit. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

9. The following consumption/production limits shall not be exceeded:

   A. 800,000,000 cubic feet of natural gas consumed per rolling 12-month period

   B. 10,000,000 pounds of carbon fibers produced from the fiber lines per rolling 12-month period.

   C. The total use rate for maintenance and testing per each emergency generator engine shall not exceed 65 hours per rolling 12-month period.

   Compliance with the limitations shall be determined on a rolling 12-month total. The owner/operator shall calculate a new 12-month total by the twentieth day of each month using data from the previous 12 months. Records of consumption, production, and generator engine hours shall be kept on a monthly basis, for all periods when the plant is in operation. Records of consumption, production and generator engine hours including rolling 12-month totals shall be made available to the Executive Secretary or Executive Secretary's representative upon request. Natural gas consumption shall be determined by examination of natural gas billing records for the plant. Graphite production shall be determined by examination of plant production records. Resin and curing agent consumption shall be determined by examination of material purchasing records and building production records. Emergency generator engine hours of operation shall be determined by examination of maintenance records, which shall be kept on site.

10. Diesel fueled power generator engines shall be used for electricity producing operation only during the periods when electric power from the public utilities is interrupted, for regular maintenance of the generators, or during periodic maintenance of the company owned electrical substation.

11. The requirements of R307-327, UAC, shall apply to all storage tanks at the site used for storage of applicable volatile organic compounds (VOC), unless more effective emissions control devices are specified for particular storage tanks.

12. The residence time within the various furnaces or fume incinerators shall be demonstrated using the following equation:

$$R = Vol/Q$$

Where,

R = residence time in seconds
Vol = inside volume of the incinerator – Ft^3
Q = maximum exhaust gas flow rate – Ft^3 /second

13. Fume incinerator temperatures shall be monitored with temperature sensing equipment that is capable of continuous measurement and readout of the combustion temperature. The readout shall be located such that an inspector/operator can at any time safely read the output. The measurement shall be accurate within ± 25^{o}F at operating temperature. The measurement need not be continuously recorded. All instruments shall be calibrated against a primary standard at least once every 180 days. The calibration procedure shall be in accordance with 40 CFR 60, Appendix A, Method 2, paragraph 6.3, and 10.31, or use a type "K" thermocouple.

14. All thermal oxidation, fume incinerators shall be operated at the following parameters (unless as indicated in condition 35-RR, 35-XX & 35-EEE):

    A. At a minimum temperature of 1,400 ^{o}F

    B. At a minimum residence time of 0.5 seconds

15. All high temperature carbonization furnaces shall utilize a dedicated burner box at each furnace entrance. Each burner box shall be equipped with pilot lights to ensure that combustion occurs.

16. Emissions from all low temperature carbonization furnaces shall be routed to, and combusted within a dedicated fume incinerator in each case before being discharged to the atmosphere.

17. Emissions from all solvent coating towers shall be routed to, and combusted within a thermal oxidization fume incinerator in each case before being discharged to the atmosphere.

18. HAP emissions from all mixing vessels vapor collection systems, and portable container cleaning vapor collection systems shall be routed to, and combusted within a thermal oxidization fume incinerator, or flare device in each case before being discharged to the atmosphere.

19. The fume incinerator exhaust stacks need not be constructed to accommodate gravimetric stack testing. However, if the Executive Secretary determines a stack test is necessary, whatever modifications needed to meet 40 CFR 60, Appendix A, Method 1, and to provide OSHA approvable access to the test location shall be retrofitted to the emission point.

20. All effluent stack/vents for process emissions from carbon fiber production shall have wire mesh filters to control broken carbon filaments, except those stacks vented to the fume incinerators, high temperature furnace outlet stacks, end chamber stacks on the oxidation ovens and surface treatment stacks.

Roads and Fugitive Dust

21. Hexcel shall abide by all applicable requirements of UAC R307-309 for PM_{10} non-attainment areas (Salt Lake County) for Fugitive Emission and Fugitive Dust sources. To be in compliance, Hexcel must operate in accordance with the most current version of R307-309.

22. The in-plant access roads and parking lots shall be paved, except for some power supply right-of way access, and shall be periodically swept or sprayed clean as dry conditions warrant or as determined necessary by the Executive Secretary. Records of cleaning paved roads shall be made available to the Executive Secretary or the Executive Secretary's representative upon request.

Fuels

23. The owner/operator shall use only natural gas as primary fuel for all fuel burning HVAC units, furnaces, burner boxes, solvent coating – drying towers, miscellaneous ovens, and boilers. Process off-gas may be used to supplement the operation of any of these devices in which such fuel would be compatible. This condition does not apply to steam, or electrically powered units.

24. The owner/operator shall use vapor recovery system off-gas as primary fuel, and natural gas as supplemental fuel for all thermal oxidation fume incinerators attached to the solvent coating – drying towers.

25. The owner/operator shall use #2 diesel fuel in the emergency generators listed in conditions #35-D(1) and D(2), #35-I, #35-CC, #35-QQ, and #35-ZZ.

26. The sulfur content of any fuel oil or diesel burned shall not exceed:

    0.5 percent by weight for diesel fuels consumed in any equipment.

The sulfur content shall be determined by ASTM Method D-4294-89 or approved equivalent. Certification of diesel fuels shall be either by Hexcel's own testing or test reports from the fuel marketer.

Federal Limitations and Requirements

27. In addition to the requirements of this AO, all applicable provisions of 40 CFR 60.18 (Control Device Requirements for Flares) applies to this installation.

28. In addition to the requirements of this AO, all applicable provisions of 40 CFR 60, New Source Performance Standards (NSPS) Subpart A, 40 CFR 60.1 to 60.18 (General Provisions) and Subpart IIII, 40 CFR 60.4200 to 60.4219 (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) apply to this installation.

29. In addition to the requirements of this AO, all applicable provisions of the National Emission Standards for Hazardous Air Pollutants for Source Categories, 40 CFR 63, Subpart A, 40 CFR 63.1 to 63.15 (General Provisions), Subpart SS, 40 CFR 63.980 to 63.999 (National Emission Standard for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process), Subpart ZZZZ, 40 CFR 63.6580 to 63.6675 (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines),and Subpart HHHHH, 40 CFR 63.7980 to 63.8105 (National Emission Standard for Miscellaneous Coating Manufacturing) apply to this installation.

Volatile Organic Compound (VOC) and Hazardous Air Pollutants (HAPs) Limitations

30. The facility shall abide by all applicable requirements of UAC R307-325, and R307-335 for VOC sources located in Davis and Salt Lake Counties, and ozone Non-Attainment areas, or any of the applicable requirements of 40 CFR 63.8055 whichever is most stringent. To be in compliance, this facility must operate in accordance with the most current version of UAC R307-325 and R307-335 or the applicable section(s), if renumbered.

31. The emissions from all plant-wide operations shall not exceed:

54.70 tons per rolling 12-month period for VOCs (non-HAP)
87.95 tons per rolling 12-month period for Cyanide
491.33 tons per rolling 12-month period for Methylene Chloride
9.50 tons per rolling 12-month period combined for all HAPs listed below: Xylene, Toluene, and Di-Meth-Formamide.

Compliance with each limitation shall be determined on a rolling 12-month total. Based on the twentieth day of each month, a new 12-month total shall be calculated using data from the previous 12 months.

The VOC or HAP emissions shall be determined by maintaining a record of VOC or HAP emitting materials used each month. The record shall include the following data for each material used:

A. Name of the VOC, or HAPs emitting material, such as: paint, adhesive, solvent, thinner, reducers, chemical compounds, toxics, isocyanates, etc.

B. Density of each material used (pounds per gallon)

C. Percent by weight of all VOC, or HAP in each material used

D. Gallons of each VOC, or HAP emitting material used

E. The amount of VOC, or HAP emitted monthly by each material used shall be calculated by the following procedure:

$$\text{VOC} = \frac{\%\ \text{VOC by Weight}}{(100)} \times \left[\text{Density } \frac{(\text{ lb })}{(\text{gal})}\right] \times \text{Gal Consumed} \times \frac{1\ \text{ton}}{2000\ \text{lb}}$$

$$\text{HAP} = \frac{\%\ \text{HAP by Weight}}{(100)} \times \left[\text{Density } \frac{(\text{ lb })}{(\text{gal})}\right] \times \text{Gal Consumed} \times \frac{1\ \text{ton}}{2000\ \text{lb}}$$

F. The amount of VOC, or HAP emitted monthly from all materials used.

G. The amount of VOCs, or HAPs reclaimed for the month shall be similarly quantified and subtracted from the quantities calculated above to provide the monthly total VOC, or HAP emissions.

H. Non-HAP VOC emissions from the fuel burning devices (products of incomplete combustion generated by the boilers, curing ovens, generators, and etc.) are included in the above total.

Records & Miscellaneous

32. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this Approval Order including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded.

33. The owner/operator shall comply with R307-150 Series. Inventories, Testing and Monitoring.

34. The owner/operator shall comply with R307-107 General Requirements: Unavoidable Breakdowns.

35. Information regarding all previously approved, installed, and operating equipment is listed below, combined with any new equipment items, and a description of each building in which the equipment items are located. Emissions from any of the buildings shall be included in the emissions inventory.

The seven (7) buildings listed below have been evaluated and determined to have sufficient potential emissions to require an AO:

Building 2344 - Graphite fiber production, Lines #2, & #3
Building 2436 - Graphite fiber production, Lines #4 & #5
Building 2478 - Solvent coating and resin prep and handling
Building 2479 - Graphite fiber production, Lines #6 & #7
Building 2480 - Graphite fiber production, Lines #8 & #10
Building 2482 - Graphite fiber production, Lines #11 & #12
Building 8162 - R & D facility with an incinerator

The five (5) buildings listed below have been evaluated and determined to either have no emissions, or negligible emissions:

Building 8249 - Office/change house - northwest of building 2479
Nitrogen Plant - Electrically powered nitrogen plant
Building 8132 - Old facilities
Building 8187 - Lab hood and curing oven
Building 2422 - Administration building - HVAC units

BUILDING-2344 - GRAPHITE FIBER PRODUCTION, LINES #2, & #3

A. Graphite Fiber Line #2 with:

1. Two (2) - Electrically heated, oxidation ovens
2. One (1) - Electrically heated, low temperature, carbonization furnace
3. One (1) - Electrically heated, high temperature, carbonization furnace
4. Surface treatment operations
5. Fiber sizing operations
6. Spooling operations

B. Graphite Fiber Line #3 with:

1. Three (3) - Electrically heated, oxidation ovens
2. One (1) - Electrically heated, low temperature, carbonization furnace
3. One (1) - Electrically heated, high temperature, carbonization furnace
4. Surface treatment operations
5. Fiber sizing operations
6. Spooling operations.

C. Two (2) - John Zink systems, thermal oxidation, fume incinerators, rated at 750,000 Btu/hr – each

D. Three (3) - standby emergency generators

1. One @ 250 kW, diesel fueled
2. One @ 125 kW, diesel fueled
3. One @ 45 kW, natural gas fueled

E. **Four (4) - 2,500 gallon tanks (either empty or containing water)

BUILDING - 2436 - GRAPHITE FIBER PRODUCTION, LINES #4 & #5

F. Graphite fiber line #4 with:

1. Four (4) - Electrically heated, oxidation ovens
2. One (1) - Electrically heated, low temperature, carbonization furnace
3. One (1) - Electrically heated, high temperature, carbonization furnace
4. Surface treatment operations
5. Fiber sizing operations
6. Spooling operations

G. Graphite fiber line #5 with:

1. Four (4) - Natural gas fueled, oxidation ovens with two - 2,500,000 Btu/hr burners per each oven
2. One (1) - electrically heated, low temperature carbonization furnace
3. One (1) - electrically heated-high temperature carbonization furnace
4. Surface treatment operations
5. Fiber sizing operations
6. Spooling operations

H. Two (2) - John Zink, thermal oxidation, fume incinerators, rated at 2,000,000 Btu/hr – each

I. Two (2) - Diesel fueled, emergency generators

1. One @ 180 kw
2. One @ 200 kW

J. **Four (4) - 2,500 gallon tanks (either empty or containing water)

BUILDING 2478 - SOLVENT COATING AND RESIN PREP AND HANDLING

K. Four (4) - Solvent coaters with associated drying towers, each consisting of

1. Creel area
2. Solvated resin dip pan tank & metering room
3. Vertical drying oven
4. Spooling operations

L. One (1) - Smith Engineering, thermal oxidation, fume incinerator, rated at 13,000,000 Btu/hr, with one (1) - attached auxiliary heater for returning heated air to the associated drying tower, rated at 3,000,000 Btu/hr.

M. Two (2) - Thermal oxidation, fume incinerators, rated at 9,500,000 Btu/hr – each

N. Five (5) - Resin warming ovens

O. One (1) - Calcining oven

P. One (1) - Blue M electrically heated drying oven

Q. One (1) - Muffle furnace

R. Two (2) - Roof top furnaces, rated at 177,000 Btu/hr each

S. One (1) - Resin filmer, and resin extruder

T. One (1) - Resin extruder

U. One (1) - Cyclone solids mover with a cyclone separator

V. One (1) - 8551-7 resin mixing system

W. One (1) - Solvent-jet, container cleaning system

X. Solvated resin mixing system

1. Nine (9) - five (5) gallon mixing vessels
2. One (1) - 25 gallon mixing vessel
3. One (1) - 50 gallon mixing vessel
4. Two (2) -100 gallon mixing vessels
5. One (1) - 250 gallon mixing vessel
6. Four (4) - Pole mounted, blade/propeller type mixers
7. Two (2) - Planetary motion type mixers
8. One (1) - 50 gallon reactor vessel
9. One (1) - 1,100 gallon reactor vessel

Y. Assorted tanks:

1. One (1) - 6,000 gallon storage tank
2. Five (5) - 300 gallon solvated mix storage tanks
3. Six (6) – 3,500 gallon storage tanks and dispensing system
4. ** Miscellaneous portable stainless steel containers of various capacity (50 to 600 gallons)

Z. Solvent vapor hood

AA. Mixing vessel, and portable container vapor collection system (sealing lids with vacuum pressure, venturi type, vapor capture)

BB. Laboratory fume hood and test oven

CC. Two (2) - 300 kW diesel fueled, emergency generators

DD. **Water based epoxy resin coating may be used in addition to the solvent based coating.

EE. The approved installations/processes for the resin preparation and handling shall consist of the following:

1. Cleaning of the resin mixers shall be done using Butyrolactone (BLO), or M-Pyrol (NMP) aqueous based solvent, methyl ethyl ketone, or acetone. Waste contaminated wiping materials shall be placed in a covered container and disposed in a manner that prevents volatilized solvent from being emitted into the atmosphere. Portable containers shall be cleaned using the solvent-jet cleaning device listed in condition 33-W above, or by hand. The solvent-jet cleaning device will be attached to the vapor collection system listed in condition 33-AA above, when using as HAP solvent for cleaning.
2. The Young conveying system shall transfer powdered curing agents to the hopper. The hopper shall discharge through a feeder into the continuous mixer as a closed system.

FF. All comfort heat sources shall be electrically powered or steam powered from existing plant services.

BUILDING - 2479 - GRAPHITE FIBER PRODUCTION, LINES #6 & #7

GG. Eight (8) - low temperature, natural gas fueled, oxidation ovens, with two (2) – burners, rated at 2,500,000 Btu/hr, per each oven.

HH. One (1) - low temperature, nitrogen purged carbonization furnace, with two (2) - natural gas fueled exhaust ports that pre-combust the VOC prior to the fume incinerator.

II. One (1) - John Zink fume incinerator, rated at 300,000 Btu/hr

JJ. One (1) - high temperature, nitrogen purged carbonization furnace, with one (1) - burner box at the furnace entrance.

KK. **The finishing area shall have water based wash baths:

1. Ammonium bicarbonate wash bath
2. Water wash baths

LL. The finishing area shall have a steam heated drum for aqueous based sizing drying.

MM. One (1) - electrically heated, low temperature, nitrogen purged carbonization furnace with two (2) - attached natural gas fueled, exhaust ports that pre-combust the VOC prior to the fume incinerator.

NN. One (1) - electrically heated, high temperature, nitrogen purged carbonization furnace with one (1) - burner box at the furnace entrance.

OO. **Three (3) - water based wash baths:

1. One (1) - ammonium-bicarbonate wash bath
2. Two (2) - water wash baths

PP. The following tanks:

1. One (1) - 5,000 gallon storage tank
2. One (1) - 5,000 gallon sizing storage tank
3. One (1) - 300 gallon sizing mixing tank

Each tank, except the sizing-mixing tank, shall have submerged fill to prevent volatilization during filling of the tank. Each of these tanks shall contain sizing, or pre-discharge water (prior to filling with the intended material).

QQ. Three (3) - diesel fueled, emergency generators

1. One (1) - 100 kW
2. One (1) – 250 kW
3. One (1) - 400 kW

RR. One (1) - McGill, Inc. fume incinerator, rated at 750,000 Btu/hr

1. This fume incinerator exhaust stack shall be monitored with oxygen content sensing equipment that is capable of continuous measurement and readout of the oxygen content within the stack. The readout shall be located such that an inspector/operator can at any time safely read the output. The measurement shall be accurate within ± 5 % of full scale (0 to 10% scale) at operating conditions. The measurement need not be continuously recorded. All instruments shall be calibrated as per manufacturer's standard at least once every 180 days.
2. The following operating parameters for the incinerator shall be maintained within the indicated ranges:
   a. The incinerator shall be operated with a minimum residence time of 1.0 second at the maximum temperature and flow rate.
   b. Temperature - 1,400^{o}F minimum to 1,700^{o}F maximum
   c. Percent excess O_2 - 6 % minimum on Fiberline 7

SS. The sizing process on line #6 shall use either an aqueous base solvent, or a VOC based solvent using only methylene chloride

TT. **Line #7 sizing process uses only aqueous based solvents.

BUILDING - 2480 - GRAPHITE FIBER PRODUCTION, LINES #8 & #10

UU. Eight (8) - low temperature, natural gas fueled, oxidation ovens, with two (2) – burners, rated at 1,000,000 Btu/hr, per each oven.

VV. Two (2) - low temperature, nitrogen purged carbonization furnaces, with two (2) - natural gas fueled exhaust ports – each that pre-combust the VOC prior to the fume incinerator.

WW. Two (2) - high temperature, nitrogen purged carbonization furnaces, with one (1) - burner box at each furnace entrance.

XX. Two (2) - John Zink fume incinerators, rated at 3,000,000 Btu/hr

1. These fume incinerators exhaust stacks shall be monitored with oxygen content sensing equipment that is capable of continuous measurement and readout of the oxygen content within the stack. The readouts shall be located such that an inspector/operator can at any time safely read the output. The measurements shall be accurate within ± 5 % of full scale (0 to 10% scale) at operating conditions. The measurements need not be continuously recorded. All instruments shall be calibrated as per manufacturer's standard at least once every 180 days.
2. The following operating parameters for the incinerators shall be maintained within the indicated ranges:
   a. The incinerators shall be operated with a minimum residence time of 1.0 second at the maximum temperature and flow rate.
   b. Temperature - 1,400^{o}F minimum to 1,700^{o}F maximum
   c. Percent excess O_2 - 6 % minimum

YY. **Six (6) - water based wash baths:

1. Two (2) - ammonium-bicarbonate wash bath
2. Four (4) - water wash baths

ZZ. Four (4) - 500 kW diesel fueled, emergency generators

AAA. Surface treatment operations

BBB. Fiber sizing operations

CCC. Spooling operations

BUILDING - 2482 - GRAPHITE FIBER PRODUCTION, LINES #11 & #12

DDD. Eight (8) - low temperature, natural gas fueled, oxidation ovens, with two (2) – burners, rated at 1,000,000 Btu/hr, per each oven.

EEE. Two (2) - low temperature, nitrogen purged carbonization furnaces, with two (2) - natural gas fueled exhaust ports – each that pre-combust the VOC prior to the fume incinerator.

FFF. Two (2) - high temperature, nitrogen purged carbonization furnaces, with one (1) - burner box at each furnace entrance.

GGG. Two (2) - John Zink fume incinerators, rated at 3,000,000 Btu/hr

1. These fume incinerators exhaust stacks shall be monitored with oxygen content sensing equipment that is capable of continuous measurement and readout of the oxygen content within the stack. The readouts shall be located such that an inspector/operator can at any time safely read the output. The measurements shall be accurate within ± 5 % of full scale (0 to 10% scale) at operating conditions. The measurements need not be continuously recorded. All instruments shall be calibrated as per manufacturer's standard at least once every 180 days.
2. The following operating parameters for the incinerators shall be maintained within the indicated ranges:
   a. The incinerators shall be operated with a minimum residence time of 1.0 second at the maximum temperature and flow rate.
   b. Temperature - 1,400^{o}F minimum to 1,700^{o}F maximum
   c. Percent excess O_2 - 6 % minimum

HHH. **Six (6) - water based wash baths:

1. Two (2) - ammonium-bicarbonate wash bath
2. Four (4) - water wash baths

III. Four (4) – 1,250 kW diesel fueled, emergency generators

JJJ. Surface treatment operations

KKK. Fiber sizing operations

LLL. Spooling operations

BUILDING - 8162 R & D FACILITY FOR NEW PROCESSES

MMM. A pilot scale fiber line with various ovens, furnaces, and process as necessary for research and development purposes, and production of specialty materials.

NNN. John Zink, or McGill, fume incinerator system rated at 750,000 BTU/hr with a 3:1 turndown ratio capability.

1. This fume incinerator exhaust stack shall be monitored with oxygen content sensing equipment that is capable of continuous measurement and readout of the oxygen content within the stack. The readout shall be located such that an inspector/operator can at any time safely read the output. The measurement shall be accurate within ± 5 % of full scale (0 to 10% scale) at operating conditions. The measurement need not be continuously recorded. All instruments shall be calibrated as per manufacturer's standard at least once every 180 days.
2. The following operating parameters for the incinerator shall be maintained within the indicated ranges:
   a. The incinerator shall be operated with a minimum residence time of 1.0 second at the maximum temperature and flow rate.
   b. Temperature - 1,400^{o}F minimum to 1,700^{o}F maximum
   c. Percent excess O_2 - 6 % minimum

OOO. The facility shall be used only for new fiber products development, new manufacturing processes development, and specialty materials production.

PPP. Any surface treatment or sizing performed on the fibers produced shall be water based, except for the use of no more than 200 lb of VOC solvents per year. If the 200 lb quantity should ever be exceeded, the emissions shall be directed to an approved emissions control device.

** This equipment is listed for informational purposes only.

The Executive Secretary shall be notified in writing if the company is sold or changes its name.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including R307.

A copy of the rules, regulations and/or attachments addressed in this AO may be obtained by contacting the Division of Air Quality. The Utah Administrative Code R307 rules used by DAQ, the Notice of Intent (NOI) guide, and other air quality documents and forms may also be obtained on the Internet at the following web site:

http://www.airquality.utah.gov/

The annual emission estimations below include point source and fugitive emissions, and do not include fugitive dust, road dust, tail pipe emissions, and grandfathered emissions. These emissions are for the purpose of determining the applicability of Prevention of Significant Deterioration, non-attainment area, Maintenance area, and Title V source requirements of the R307.

The Potential To Emit (PTE) emissions for the Hexcel Fiber plant are currently calculated at the following values:

	Pollutant	Tons/yr
A.	PM_{10}	117.46
B.	NO_x	148.87
C.	SO_2	27.62
D.	CO	63.07
E.	VOC (non-HAP)	54.70
F.	HAPs (hydrogen cyanide, dimeth-formamide, glycol ethers, methylene chloride, toluene, xylene, various products of incomplete combustion)	
	Total HAPs	588.78

The DAQ is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an AO. An invoice will follow upon issuance of the final AO.

Sincerely,

John T. Blanchard, Manager
Minor New Source Review Section